VISION OF A MULTI PROPERTIES OWNER

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ACCOR

158 000 employees

7 Billions € turnover

140 countries

Hotels, restaurants

Services (Ticket Restaurant…)

Casinos

Distribution (travel agencies…)

1st property opened in 1967

ACCOR

SOFITEL
ACCOR HOTELS & RESORTS

Upscale
8%

4 000 HOTELS
450 000 guest rooms

Suitehotel
ACCOR hotels

mercure
ACCOR hotels

NOVOTEL
ACCOR hotels

Midscale
37%

HOTEL FORMULE 1
ACCOR hotels

MOTEL 6
ACCOR hotels

Etap
ACCOR hotels

red roof inns
ACCOR hotels

ibis
ACCOR hotels

Economy
55%

DGTH

The General Management of Hotel Technical Services is in charge :

- To write the Technical Standards Documents
- To manage construction of new properties and main refurbishment
- To coordinate the hotels technical maintenance
- To coordinate the budgetary control of the minor refurbishment

ACCOR SPECIFICATIONS (HVAC)

1. Environment *(energy saving, legionella…)*
2. Comfort criteria *(temperature, fresh air, noise…)*
3. Sizing criteria *(nr of guest per room, 2 adjacent rooms are at the same temperature…)*
4. Design conception *(redundancy criteria…)*
5. Kind of material *(Pipe in copper…)*
6. Test and start-up

7. And then : SUGGESTED TECHNICAL SOLUTIONS

ACCOR SPECIFICATIONS

Accor specifications are directed to engineering designers who have to adapt them to each particular project

Accor specificities :

- Design the building
- Built the building
- Use the building

} Operating and construction cost shall be optimized

We know what we want, we know what it is efficient for our guests and for us

2 TYPES OF HOTELS SHOWN :

IBIS ★★

645 properties
36 countries
69 000 rooms
55% business, 45% leisure

SOFITEL ★★★★

180 properties
49 countries
37 000 rooms
60% business, 40% leisure

THE IBIS ROOM

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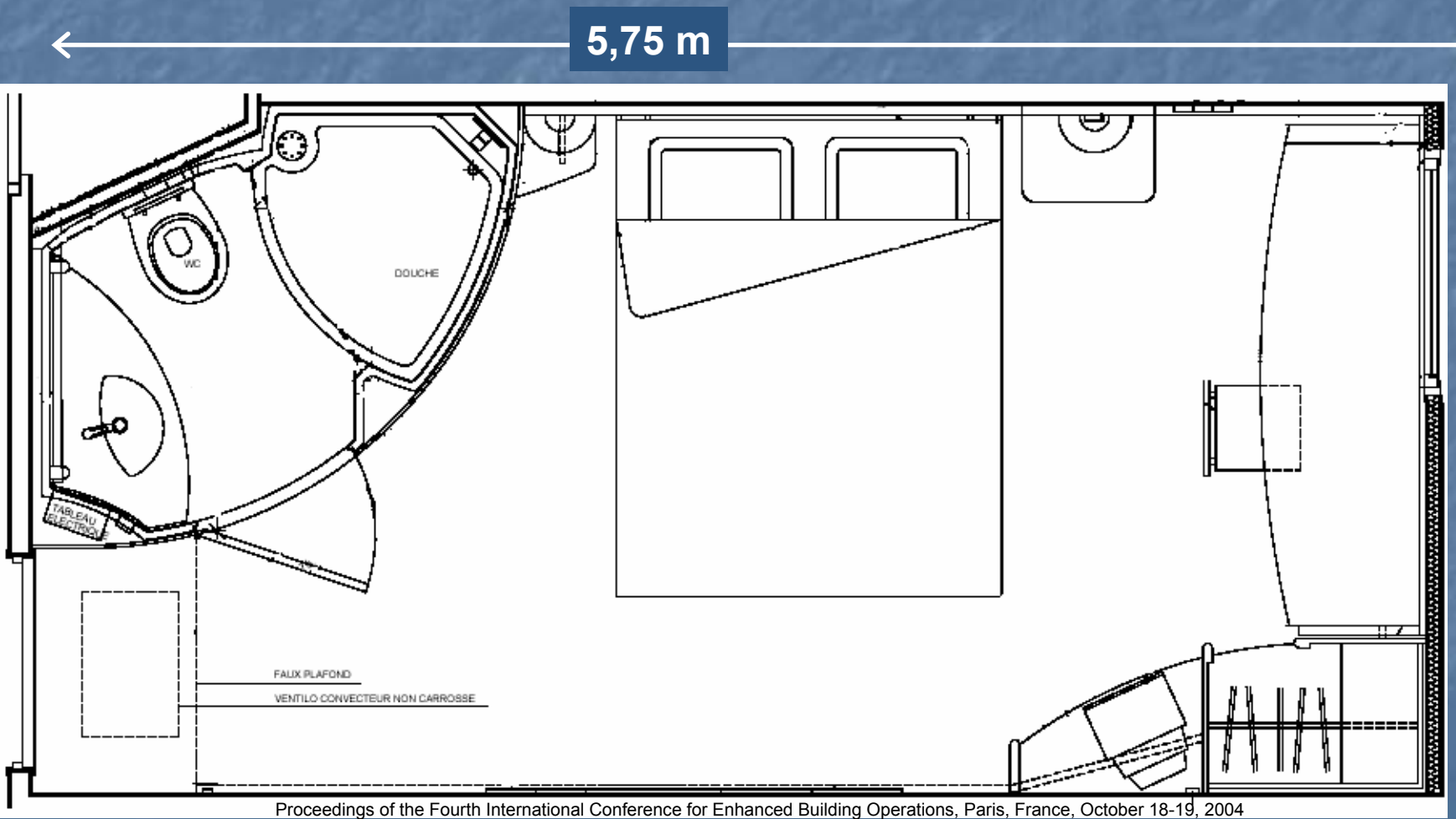
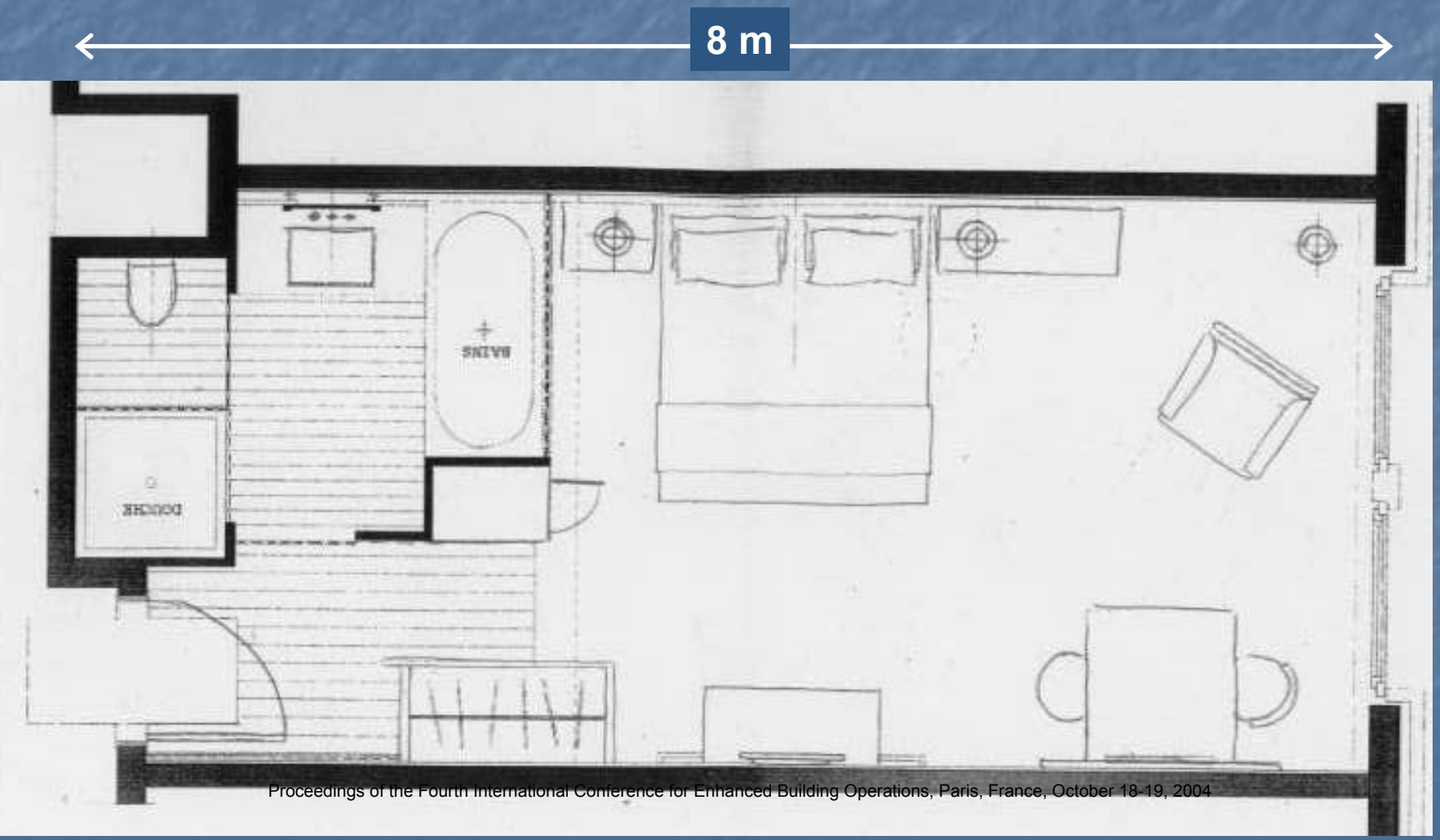


THE SOFITEL ROOM



IBIS & BMS

NO …

Ibis does not install BMS because :

- **Guest room thermostats must be simple and cheap**
- **The size of the hotel is medium**
  - **often < 120 rooms**
  - **rarely meeting room**
  - **small restaurant**
  - **…**
- **Small hotel do not have maintenance team**
- **The overinvestment is prohibitive :**
  - **it is not appreciate by the guest**
  - **it does not save substantial energy**
  - **the technical complexity of the hotel does not justify it**

SOFITEL & BMS

YES BUT …

NOT for guest room thermostat :
- **The guest doest not see it**
- **It does not save substantial energy**

YES for general services & back of house :
- **Gives better comfort :**
  - **temperature in meeting rooms, restaurants etc**
  - **automatic start/stop of air handling unit**

YES for main production equipments
- **Supervision of boilers, chillers, pumps…**
- **Technical alarms well organized**
- **etc**

ACCOR & BMS : NO BUT...

The hotelkeeper serves his guests. The BMS is not seen by them as additional services.

BMS manufacturers hold out the prospect of :
- Energy saving
- Easy supervision of the installations

In reality :
- Energy saving are generally low, return of investment > 10 years.
- Do we need really to know the valves position, the temperature of each room minute per minute from 1 year etc
- But remote control of fault, automatic set point adjustment etc are very useful.

Generally hotel < 250 rooms do not have any BMS

BMS SMALL STORIES

Sofitel :

- **Sensors badly located did not measure the right temperature → many complains from guest → expensive modification of thermostats**

- **Electric over-voltage :**
  - **burning of small control transformer**
  - **therefore no temperature control**
  - **many complains**

- **In meeting room the temperature set point was indicated + / - :**
  - **guest not able to select himself the right temperature**
  - **many guest complains**
  - **therefore modification of the system**

BMS SMALL STORIES

Sofitel, energy management in guest rooms :

- **Room no booked : temperature = set point ± 5°C**
- **Room booked, guest not there : temperature = set point ± 3°C**
- **Guest in his room : temperature = set point ± 0.5°C**

BUT:

- **Room price = 200 €**
- **Guest coming in his room does not receive perfect comfort : risk of complains**

Conclusion : today this system is not in operation

BMS SMALL STORIES

In Paris an hotel 100% electric with
- **Heat pump for chilled water in summer and hot water in winter**
- **Big water tanks for domestic hot water (bathrooms…)**
- **In room FCU (2 pipes change-over) + electrical heaters (in case heat pump not enough)**

A BMS control the system :
- **The heat pump**
- **The FCU in guest rooms**
- **The electric power input**

Unfortunately we had some troubles in electronic hardware which was costly to repair

The system gives satisfaction, works well, it is really user-friendly

BMS SMALL STORIES

One of the biggest Sofitel, the control system was partly pneumatic and we made a renovation in 2000.

On the computer screen :

- Valve for HOT water : open 120%, closed -20%
- Valve for CHILLED water : open -20%, closed 120%

According the manufacturer representative it was impossible to have 100% for fully open, 0% for closed and applicable for hot and cold !

The human interface is really poor !

ENERGY COST

In France :
1 kWh electric in summer = 0,022 € HT
1 kWh gas in winter = 0,025 € HT

Energy cost (heating AND cooling) deliver by a fan coil in a Sofitel room :

70 € per year per room

It is very difficult to get substantial money saving just by adding "intelligent thermostat" and BMS

EXEMPLE : REFURBISHING

Sophisticated guest room thermostat (10 years old)

116 rooms, bad functioning

pricing :

209 € / room supply
247 € / room install
129 € / room BMS

} total 585 € per room

IMPOSSIBLE, standard thermostat will be installed

ACCOR & ENGINEERING

Some engineering dpt do not have sufficient knowledge :

- Santo Domingo : socket outlet for razor = 1 kW
- Chicago : the cooling calculation software increases by 300 W the cooling load of each room without notice
- Saint Petersburg : transformers are 3 times over-sized
- Porto : the cooling load is 2.5 over-sized
- Valladolid : the air blown in the kitchen is taken from toilets
- Hamburg : FCU in guest rooms are 2 times bigger because the designer suppose that the FCU of the 4 adjacent rooms are off.

ACCOR & ENGINEERING (2)

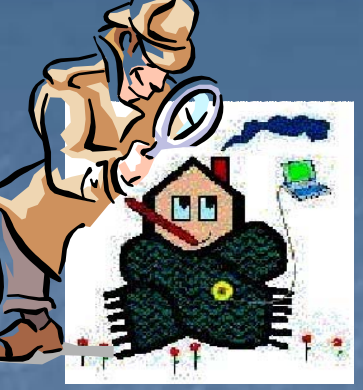
The list of errors is very long, the “bad” design is very frequent.

As engineers

- Do not use realistic criteria
- Are afraid to make mistake and take unreasonable safety margin

Machines are over-sized → installation and running cost increase

Generally Accor explain its point of view which is often taken into consideration. But sometimes engineering are afraid “to take the risk” and go on with not optimum solution.



CONCLUSIONS

Today Accor does not install many BMS but the technology is advancing :

- **Prices decrease**
- **Reliability increases**
- **The system becomes really user-friendly**
- **Our technicians in hotel ask for the new technology**
- **The law and code push for energy saving**
- **Remote maintenance systems are coming**
- **…**

The BMS is the future
and Accor will use it.
The credo remains : SIMPLICITY

THANK YOU




ACCOR

And see you in Accor Hotels